

Bibliometric Analysis of Journal of Indian Education (2014–2019)

A Study

POOJA JAIN*

Abstract

The Journal of Indian Education (JIE) is the premier journal in the field of School Education being published in India by National Council of Educational Research and Training (NCERT), Delhi. Journal of Indian Education (JIE) has completed 45 years of its publication during the year 2019-20. This research paper studied the bibliometric analysis of Journal of Indian Education (JIE) during the period of five years 2014-2019. The data was collected from the NCERT website only. This journal is full-text available at NCERT website in open access from the year 2010 (complete set) onwards. This bibliometric study has covered the different aspects such as year-wise publication of article, pattern of authorship, degree of collaboration, average length of pages per article, average no. of references per article. This study analysed the data of five years (2014-19). Total 218 articles were published in 20 issues during the period of study. The collected data revealed that 17.43% articles were contributed during 2015-16 which is the minimum in all years and single authored contribution is highest and preferred with nearly 70 %. The degree of collaboration is 0.30. The average no. of pages per article is 13.30 and average no. of references per article is 19.40.

INTRODUCTION

Journals are the primary source of getting information about the latest research and development about

the particular issue or problem of the subject and its related areas. Journals are the source to determine the academic contribution and

* Assistant Librarian, Library and Documentation Division (LDD), NCERT, New Delhi

reputation of an institution at national and international level. In simple language, Bibliometrics means application of mathematics and statistical methods to books and other media of communication and information to understand the various parameters related to publication patterns and contributors. This word is the combination of two words—first is Latin word '*Biblio*' which means a book and second is the Greek word '*Metrics*' which means Science of measurement. The term Bibliometrics was coined by Alan Pritchard in 1969 to study and evaluate the quantitative growth of subjects or documents. This kind of study also helps the libraries in taking the decision regarding knowledge accumulation and dissemination to fulfil the needs of the target groups with the limitation of budget and in the exponential growth of the knowledge in different formats. Bibliometric studies also support librarians in judicious selection and procurement of periodicals in different formats for their users.

GENESIS OF THE JIE

NCERT was established in the year 1961 which is the only national level organisation to assist and advise the central and state governments on policies and programs with a prime objective of promoting the quality of the school education in India. NCERT also encourages the research of original and critical thinking in the subject of education. This journal main objective is to

provide a platform for researchers, teachers, teacher educators, educational administrators through presentation of new ideas, critical appraisals, educational problems and their solutions along with various educational practices with experiences and research procedures. JIE includes the articles discussions, analyses of different educational matters, book reviews other than textbooks along with challenges of educational issues.

Journal of Indian Education (JIE) was started in the year 1975 with 6 issues per year (May, July, September, November, January, and March) means published one issue in every two months. This journal was initiated with the intention to be read by all those who play a major role in the provision and functioning of the educational system. Each issue was published with unique theme. For example: The first issue was on theme 10+2+3 pattern of education system and the second on the aspects of Psychology, the third issue was on history which included writing history of textbooks, teaching of history, history of philosophers, social change, the fourth issue was dedicated to Women and their education, various facets of the problems faced by women in India, legal rights etc., fifth issue was discussed with language education and teaching for beginners, applied linguistic, phonetics and the last issue was dedicated to education of minorities and covered problems and education of schedule caste

and tribes, Muslim community etc. Besides the articles, following were also included in the journal such as—

- Educational news
- Book reviews
- Bibliography
- Seminar paper
- Books and Periodical received
- Readers forum

At that time, above all were really important especially for the research scholars and students of education field. During that period periodicals are the only source to get updated about latest research and development in the particular discipline and all sincere readers and experts waited for the next issue of the journal as this journal serve as a clearing house in education.

Journal of Indian Education (JIE) is one of the renowned journals of the subject Education and its interdisciplinary areas. It is a reviewed periodical published four times in a year i.e. May, August, November and February from the year 1995-96 with volume no. twenty one (21) by the Department of Teacher Education, National Council of Educational Research and Training (NCERT), Delhi. Earlier six issues were published per year till 1994. This journal consists of two boards— advisory board which includes Director, NCERT, Head, Department of Teacher Education and Head Publication Division and editorial board that includes

the academic editor and team of experts of education. The cost of the annual subscription of JIE is ₹180 and a single copy is of ₹45 per issue. The journal is available in open access through NCERT website (<https://ncert.nic.in/pdf/publication/journalsandperiodicals/journalofindianeducation/JIE>). It is an appreciable initiative of NCERT to provide open access to all NCERT published journals from the year 2010 onwards. Editor's note has been written in the manner which covers the base and gist of every article written by different authors. It gives the broad idea of every article published in the journal. The ISSN for print version is 0377-0435 and online version is 0972-5628.

LITERATURE REVIEW

There is an abundance of studies that have been done on Bibliometric or Scientometric analysis and growing day by day. In this paper, the most relevant latest studies done after 2015 which are directly related to this present study have been covered for the purpose of review of literature to avoid duplication. Tallolli and Mulla (2016) examined the 155 articles from five volumes of Journal of Information Literacy from 2011-2015 and found that majority are single-authored publications and 0.26 was the degree of collaboration. Secker J. was traced as the most prolific contributor and UK as the country (56.36%) from where the highest author contributed. The same authors Tallolli and Mulla

(2020) again had done the research on the Education Libraries Journal for the period of 2013-17. The study revealed that single authorship is in the trend during the period of study and found the 9.43 average citations per paper. USA was identified as the country with the highest no of contributed articles.

Arvian Firmansyah, Egi and Faisal, Yudi (2020) studied the bibliometric analysis of Indonesian-based journals i.e Islamic Economics and Finance Journals and used the VOS viewer software to visualise the performance of Journals. This paper listed ten most productive researchers and top-five Islamic economics and finance Indonesian journals. Nath, Amit and Jana, Sibsankar (2020) did the bibliometric study of Journal entitled *Annals of Library and Information Studies (ALIS)* for the period 2008-18 to study year-wise distribution and citations pattern; to identify most productive author and authorship pattern of the journal and create a list of highly cited journals in library science domain along with institution-wise and country-wise quantum of publications. He analysed total published 11 volumes contained 377 articles which were written by 723 authors. Authors from India are the maximum number of contributors and B.K. Sen is the most productive author during the period of study.

Abdi, Asad and Idris, Norisma and Alguliyev, Rasim and Aliguliyev, Ramiz (2018) examined the

bibliometric analysis of journal entitled "Information Processing and Management (IP and M)" from 1980-2015 i.e. 25 years. This study presented a total of 2913 articles were published during the period of study of 25 years. He also identified top 10 prolific authors, institutions and top 24 prolific countries along-with the number of papers. USA was found as the country with highest contributions (50.88%). This study also revealed that during 2010-15 period degree of collaboration has been enhanced thrice in comparison to 1980-85.

Nayak, Ashapura (2017) examined the Indian Educational Review journal published by NCERT for the period of 5 years 2011 to 2015. 63 research papers is maximum among other types of publications such as research innovations, book reviews, project summaries and other types of publications with 14 contributions from New Delhi. Khan (2016) analysed quality, popularity and impact of the DESIDOC Journal of Library and Information Technology (DJLIT) published by DESIDOC from the year 2010 to 2014 includes 307 contributions in 30 issues. This study found that 2012 was the most productive year and published special issues in every volume. Pandita and Singh (2015) studied the growth in the research output in the library and information science (LIS) field globally during the period 2004-2013 from the SCImago Journal and Country Ranking, based on SCOPUS

data source. Total 75,887 research articles retrieved and the USA was found as a leading country with 38.54% share followed by the UK and China.

NEED AND SIGNIFICANCE OF THE STUDY

There is lot of bibliometric studies have been conducted on various international and national journals so accordingly there is need to do this study on NCERT reviewed periodical i.e. Journal of Indian Education. This study is an attempt to analyse the JIE to understand the publication and authorship pattern, no. of citations along with length of papers. This paper will also give insight to and promote similar or extended kind of researches on other NCERT publication also.

OBJECTIVES OF THE STUDY

The main objectives of this study are as follows—

- to study the growth of publication during 2014-2019,
- to study the authorship pattern of the Journal of Indian Education,
- to find out the degree of collaboration,
- to find out the average no. of pages per article and
- to find out the average no. of references per article

METHODOLOGY

The data for analysis and interpretation was collected from

directly the website through the link <https://ncert.nic.in/journals-and-periodicals.php> and saved into different excel sheet year wise. Data elements were no. of articles, title of the article, first author, second author, third author, fourth author, more than four author, authors belonging to which institute, no. of pages on individual articles, no. of references of each article, book review in each issue etc. After collection of data, data is analysed manually along with some filters on MS-EXCEL software and inferences made out of this analysis were placed in tables.

DATA ANALYSIS

Total 218 papers have been published during 2014–19 comprising research papers, analytical papers, problems and issues concerning the child holistic development and imparting education with qualitative effectiveness. It includes the articles broadly categorise in the subjects related with children with disabilities, early childhood care and education, mid-day meal, preparation of quality teachers, experience of new teaching techniques in classrooms, Indian education system, academic achievements, teaching-learning process, assessment, education pedagogy, generic issues, professional development of teachers, language education, skills, madrasa education, girls education, inclusive education, aspects related with psychology, science and mathematics teaching, parents involvement, challenges, ICT

application in education, National Curriculum Framework, plagiarism, tribal education, cyber-bullying, CCE, no detention policy etc. Most of the issues include book review. This journal mainly covers the aspects of the school education and its interdisciplinary area.

Table 1 shows that maximum no. (14) of articles have been published in November 2016 and minimum (08) in August 2015. However the no. of articles in other issues is ranging between 10-12 articles.

Table 1.1 indicates that 218 no. of papers have been published during the year 2014-19. It can be seen from the table that the journal is following the standard pattern for publication

for no of articles. However, the same no of papers were published in 2016-17 to 2018-19 and minimum were in the year 2015-16 with 17.43%. Total 14 book reviews were also published during the period of study and 4 book reviews published during the year 2015-16 which is the maximum no. of book reviews.

Besides articles and book reviews, this journal includes one speech i.e. Teachers' Day Speech by the President of India, Shri Pranab Mukherjee in November 2014 at the Presentation of National Award to Teachers of India. It is not counted under number of published articles.

Table 2 shows that JIE contained 152 (almost 70%) papers are single

**Table 1: Year and volume-wise distribution of Articles during 2014-19
Journal of Indian Education (JIE)**

Issue Published in Month	2014-15	2015-16	2016-17	2017-18	2018-19
May	10	10	10	12	12
August	11	08	12	11	11
November	09	10	14	12	11
Feb (of next year)	12	10	10	11	12
Total no. of articles	42	38	46	46	46

Table 1.1 Details of total no. of Volumes, Issues Published, Articles and Book reviews

S.No.	Year	Vol. No.	Issue Published	No. of Articles	%	No. of Book Reviews
1.	2014-15	40	4	42	19.27	3
2.	2015-16	41	4	38	17.43	4
3.	2016-17	42	4	46	21.10	3
4.	2017-18	43	4	46	21.10	2
5.	2018-19	44	4	46	21.10	2
	Total	5 (Volumes)	20 (Issues)	218 (Articles)	100%	14 (Book Reviews)

Table 2: Authorship Pattern of Published article in JIE during 2014–19

Year	No. of Authors (Single) (1)	No. of Authors (Joint) (2)	No. of Authors (Three-Author) (3)	No. of Authors (Four author) (4)	Total no. of Articles
2014-15	33	8	1	0	42
2015-16	28	10	0	0	38
2016-17	33	11	1	1	46
2017-18	30	13	1	2	46
2018-19	28	18	0	0	46
Total	152	60	3	3	218
%	69.72	27.52	1.38	1.38	100%

authored and maximum no of papers published in 2016-17 of single author i.e. 33. Out of 218 papers, 27.52 % papers are in joint authorship. This table also depicts that three and four authors' contribution is merely 2.76 % together. During analysis, it was found that maximum no of articles in joint authorship were published in the August 2018 issue with 8 publications.

CALCULATION OF DEGREE OF COLLABORATION

The degree of collaboration is to measure the ratio between the

research papers written jointly or in collaboration with multi-author to the total no. of papers in the journal during a particular period of time. The formula is as given below:

$$C = Nm / Nm + Ns$$

C = Degree of Collaboration

Nm = Number of multi-authored articles (more than single author)

Ns = Number of Single-authored articles

Table 3 clearly shows that total 66 articles have been written in joint or multi-authorship and total single authored articles are 152. So, the formula to measure C

Table 3: Year-wise Distribution of Papers and their Degree of Collaboration
Year-wise Degree of Collaboration

S.No	Year	Single Authored Articles	Sub Total (Collaborative Articles)	Total Articles	C= Nm / Nm+N _s	C
1.	2014-15	33	9	42	9/42	0.21
2.	2015-16	28	10	38	10/38	0.26
3.	2016-17	33	13	46	13/46	0.28
4.	2017-18	30	16	46	16/46	0.34
5.	2018-19	28	18	46	18/46	0.39
	Total	152	66	218	66/218	0.30

(Degree of Collaboration) given by K. Subramaniam (1983) has been used. Here, the degree of authorship collaboration of the journal is 0.30 which is calculated as $N_m=66$, $N_s=152$ and $C=(66/66+152)=0.3027$ and above table shows that it is in increasing pace from 2014 to 19 (from 0.21 in the year 2014-15 to 0.39 in the year 2018-19).

Table 4: Year-wise distribution of papers and their total length of pages altogether

Year	No. of articles	Total Length of pages of article in volume	Average no. of page/paper
2014-15	42	564	13.42
2015-16	38	557	14.65
2016-17	46	572	12.43
2017-18	46	611	13.28
2018-19	46	596	12.95
Total	218	2900	13.30

Table 4 gives the total no. of pages in the complete set of volume

and average no. of pages per article. It indicates that the maximum no of pages was in the year 2017-18 with 611 pages and 46 articles whereas average per page article is 14.65 which is highest in all 5 years during the year 2015-16.

(Note: This journal pagination begins from the content page. But during the analysis of articles and total no. of pages in journal, content and editor's note have been excluded.)

Table 4.1 shows that out of 218 papers the maximum no of articles are ranging in 11-15 pages and 77 articles are in 6-10 page range which is followed by 39 articles of the pages ranging in between 16-20. Only 3 papers are of 1-5 pages. There are only two articles had a length of more than 30 pages which was written by Prof Gauri Srivastava (NCERT Faculty) and Albert Ferrer (Lecturer, University of Barcelona, Asia House (Ministry of Foreign Affairs/ Government of Spain) and visiting Professor in Sri Sathya Sai University (South India) in the issue of August 2015 and May 2018 respectively.

Table 4.1: Distribution of articles according to length of papers published in JIE during 2014-19

Year	No. of Pages							Total no. of article
	1-5	6-10	11-15	16-20	21-25	26-30	>30	
2014-15	0	15	15	7	5	0	0	42
2015-16	1	11	13	5	5	2	1	38
2016-17	2	18	16	7	2	1	0	46
2017-18	0	15	17	11	3	0	0	46
2018-19	0	18	17	9	0	1	1	46
Total	3	77	78	39	15	4	2	218

Table 5: References in articles published in JIE during 2014-19

Year	Total no. of Papers published	Total no. of References	Average no. of references per paper
2014-15	42	749	17.83
2015-16	38	766	20.15
2016-17	46	995	21.63
2017-18	46	703	15.28
2018-19	46	1018	22.13
Total	218	4231	19.40

Table 5 depicts the total no. of references year-wise. It also includes the no. of endnotes which were given in some papers.

authors in their articles. Out of total 218 papers, 71 (32.57%) have 1-10 references; followed by 62 papers (28.44%) with 11-20 references;

Table 5.1: Distribution of papers according to no. of references listed in articles published in JIE during 2014-19

No. of References listed in articles	2014-15 (No. of article)	2015-16 (No. of article)	2016-17 (No. of article)	2017-18 (No. of article)	2018-19 (No. of article)	Total (No. of article)	%
0	5	0	0	0	0	5	2.29
1-10	8	14	13	19	17	71	32.57
11-20	11	10	17	18	6	62	28.44
21-30	12	6	9	4	11	42	19.27
31-40	3	4	2	3	6	18	8.26
41-50	3	2	2	2	3	12	5.50
51-60	-	-	1	-	2	3	1.37
61-70	-	1	1	-	-	2	0.92
71-80	-	1 (78 References)	-	-	-	1	0.46
81-90	-	-	-	-	-	-	-
91-100	-	-	-	-	1 (93 References)	1	0.46
>100	-	-	1 (101 References)	-	-	1	0.46
Total	42	38	46	46	46	218	100%

Table 5.1 provides details of the number of references cited by the 42 papers (19.27%) with 21-30 references. 5 papers (2.29%) in the

year 2014-15 with (0) no references. There were two papers with maximum references one in August 2016 written by Habibullah Shah from University of Kashmir, Sri Nagar with 101 references and other published in the issue of August 2018 written by Meenakshi Girdhar from G.D. Goenka University, Haryana with 93 references.

CONCLUSION

The study of JIE for the period 2014-19 resulted that number of articles published ranging between 8-14 articles. However most of the issues are with 10-12 articles. Besides article 14 book reviews were also published altogether in 20 volumes. Single authorship is most preferred with 152 contributions and authorship collaboration is found to be 0.30. The length of articles ranges from pages 6-15 for maximum. However, 2 articles are having more than 30 pages and 3 articles are written within

less than 5 pages. The average no of references per article is 19 while five articles with zero references and one article with more than 100 references in August 2016 issue of Vol.42.

This journal is very important for the updates in the field of education maximum with Indian perspective articles. Soon this journal will complete a 45 years journey in the year 2019-20 which shows the long sustainability of publication. This journal gives the equal chance to professionals and research scholars to publish their research studies and experiences in the form of research papers. While doing collection and analysis of data it was found that research scholars' contribution ranges from 5-11 articles per volume and 5-10 articles are contributed by NCERT faculty in each volume. Journal of Indian Education is a regular and reputed journal of NCERT and very useful for the researchers and educationists.

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